



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,629	12/28/2000	Yuanlong Wang	00CXT0785N	7116

36122 7590 03/18/2004

DUFT SETTER OLLILA & BORNSSEN LLC
2060 BROADWAY
SUITE 300
BOULDER, CO 80302

EXAMINER

HUYNH, KIM T

ART UNIT

PAPER NUMBER

2112

DATE MAILED: 03/18/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary

Application No.

09/750,629

Applicant(s)

WANG ET AL.

Examiner

Kim T. Huynh

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 4-7, 9-12, 14-17, 19-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto et al. (US Patent 6,392,991)

As per claim 1, Yamamoto discloses communication circuitry comprising:

- parallel channels configured to transfer communications in parallel with a clock signal; (col.10, lines 21-41), also see abstract
- processing circuitry configured to exchange the communications between communication links and the parallel channels; and (col.1, lines 7-13), (col.21, see claim 21)
- crossbar integrated circuits configured to receive the communications and the clock signal over the parallel channels, switch the communications based on the clock signal, and transfer the switched communications to the parallel channels. (col.11, lines 25-34), figure 9.

As per claim 11, Yamamoto discloses a method of operating communication circuitry, the method comprising:

- exchanging communications between communication links and processing circuitry; (col.1, lines 7-13)
- exchanging the communications and a clock signal between the processing circuitry and parallel channels; (col.10, lines 21-41), see abstract
- transferring the communications in parallel with the clock signal over the parallel channels; (col.10, lines 21-41), (col.21, see claim 21)
- receiving the communications and the clock signal from the parallel channels into crossbar integrated circuits; (col.11, lines 25-34)
- switching the communications in the crossbar integrated circuits based on the clock signal, and transferring the switched communications from the crossbar integrated circuits to the parallel channels. (col.11, lines 25-34), figure 9
- transferring the switched communication from the crossbar integrated circuits to the parallel channels. (col.11, lines 25-34), (col.21, claim 21)

As per claims 2,12, Yamamoto discloses wherein the parallel channels are each comprised of parallel differential signal pairs wherein one of the differential signal pairs is for the clock signal. (col.4, lines 62-65)

As per claims 4,14, Yamamoto discloses wherein the communications comprise data packets. (col.7, lines 38-54)

As per claims 5,15, Yamamoto discloses wherein the communications comprise fixed-length data packets. (col.4, lines 43-52)

As per claims 6, 16, Yamamoto discloses wherein the communication circuitry comprises a switch fabric. (col.1, lines 21-27)

As per claims 7, 17, Yamamoto discloses wherein the processing circuitry is comprised of virtual output queues that store the communications prior to switching and that are associated with egress ports. (col.2, lines 54-67), (col.9, lines 38-44)

As per claims 9, 19, Yamamoto discloses wherein the processing circuitry is comprised of a multi-cast virtual output queue that stores the communications prior to switching for multi-cast output. (col.2, lines 54-67), (col.9, lines 38-44)

As per claims 10, 20, Yamamoto discloses wherein the parallel channels include multiplexers to perform bit slicing through the crossbar integrated circuits. (col.16, lines 42-52), figure 14.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (US Patent 6,392,991) in view of Applicant Admitted Prior Art (AAPA)

Yamamoto discloses all the limitations as above except wherein the communication links comprise serial channels. However, AAPA discloses crossbar includes cross-points that switch between incoming serial channels. (pages 3-5)

5. As per claims 8, 18, Yamamoto discloses wherein the processing circuitry is comprised of virtual output queues that store the communications prior to switching and wherein each virtual output queue is comprised of sub-queues that are each associated with a different priority.

Although Yamamoto fails to disclose wherein the processing circuitry is comprised of virtual output queues that store the communications prior to switching and wherein each virtual output queue is comprised of sub-queues that are each associated with a different priority. However, Yamamoto does teach using an arbitrating between one of a plurality of channels. (col.1, lines 52-62), but not explicitly discloses each of arbitrating output associated with a different priority.

Examiner takes Official Notice that arbitrating with different priority are well known in the art. It would have been obvious to incorporate arbitrating with different priority into Yamamoto's system so as to the same purpose of having conflict-free and for determine which device is having more priority than the others.

Response to Amendment

6. Applicant's argument filed on 1/7/04 have been fully considered but are moot in view of the new ground(s) of rejection.

a. In response to applicant's argument that Aybay does not state that the packet processing unit communicates with the crossbar over a parallel channel. However, Yamamoto's system discloses a communication network formed with switches connected to a number of parallel channels. The terminal devices are connected to the parallel channels and supply an input signal, the switches receive the input signal from each of the channels and output it to other channels. The network is configured so that the input signal passes through the switches to a destination terminal device. Thus, the prior art teaches the invention as claimed, the claims do not distinguish over the prior art as applied.

Conclusion

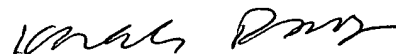
7. *Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (703)305-5384 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 8:30AM- 6:30PM.*

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815 or via e-mail addressed to [mark.rinehart@uspto.gov]. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5631.

Kim Huynh

March 13, 2004



Khanh Dang
Primary Examiner